

## WHAT IS CLAIMED IS:

1 1. A controller for providing a subscriber database  
2 associated with a switch, said switch capable of handling call  
3 connections between calling devices and called devices on a  
4 plurality of trunk lines associated with said switch, and said  
5 switch capable executing call processing applications, wherein each  
6 of said call processing applications is associated with one of said  
7 call connections, said controller comprising:

8 N call application nodes capable of executing a plurality  
9 of subscriber database server applications that connect a  
10 subscriber database to a call connection, wherein a first  
11 subscriber database server application is executed on a first one  
12 of said N call application nodes and is associated with a similar  
13 second subscriber database server application executed on a second  
14 one of said N call application nodes separate from said first call  
15 application node, said first and second subscriber database server  
16 applications thereby forming a subscriber database load sharing  
17 group server application, and

18 wherein said each call processing application sends a  
19 subscriber database service request to said subscriber database  
20 load sharing group server application and said subscriber database  
21 load sharing group server application selects one of said first and

22 second subscriber database server applications to perform said  
23 requested subscriber database service request according to a load  
24 distribution algorithm.

1 2. The controller as set forth in Claim 1 wherein said load  
2 distribution algorithm distributes new subscriber database service  
3 requests in an alternating manner between said first and second  
4 subscriber database server applications.

5 3. The controller as set forth in Claim 1 wherein said load  
6 distribution algorithm distributes new subscriber database service  
7 requests according to a current call process load of said first  
8 subscriber database server application and a current call process  
9 load of said second subscriber database server application.

1 4. The controller as set forth in Claim 3 wherein said load  
2 distribution algorithm distributes said new subscriber database  
3 service requests in order to maintain said current call process  
4 load of said first subscriber database server application at a  
5 level substantially equal to said current call process load of said  
6 second subscriber database server application.

1           5.    The controller as set forth in Claim 1 wherein said first  
2 subscriber database server application comprises a first primary-  
3 backup group server application, wherein said first primary-backup  
4 group server application comprises a first primary subscriber  
5 database server application executed on said first call application  
6 node and a first backup subscriber database server application  
7 associated with said first primary subscriber database server  
8 application.

1           6.    The controller as set forth in Claim 5 wherein state  
2 information associated with said first primary subscriber database  
3 server application is mirrored to said first backup subscriber  
4 database server application associated with said first primary  
5 subscriber database server application.

1           7.    The controller as set forth in Claim 6 wherein said first  
2 backup subscriber database server application resides on said first  
3 call application node.

1           8.    The controller as set forth in Claim 6 wherein said first  
2 backup subscriber database server application resides on a call  
3 application node separate from said first call application node.

1           9.    The controller as set forth in Claim 1 wherein said  
2 second subscriber database server application comprises a second  
3 primary-backup group server application, wherein said second  
4 primary-backup group server application comprises a second primary  
5 subscriber database server application executed on said second call  
6 application node and a second backup subscriber database server  
7 application associated with said second primary subscriber database  
8 server application.

1           10.   The controller as set forth in Claim 9 wherein state  
2 information associated with said second primary subscriber database  
3 server application is mirrored to said second backup subscriber  
4 database server application associated with said second primary  
5 subscriber database server application.



13. A wireless network comprising:

1 a plurality of base stations capable of communicating  
2 with a plurality of mobile stations in a coverage area of said  
3 wireless network; and

4 a mobile switching center coupled to said plurality of  
5 base stations and to a public switched telephone network by a  
6 plurality of trunk lines, wherein said mobile switching center is  
7 capable of handling call connections between calling devices and  
8 called devices on said plurality of trunk lines, and wherein said  
9 mobile switching center is capable of executing call processing  
10 applications, wherein each of said call processing applications is  
11 associated with one of said call connections, wherein said mobile  
12 switching center comprises:

13 a controller for providing a subscriber database  
14 associated with said mobile switching center, wherein said  
15 controller comprises:

16 N call application nodes capable of executing call  
17 process server applications, wherein a first subscriber  
18 database server application is executed on a first one of said  
19 N call application nodes and is associated with a similar  
20 second subscriber database server application executed on a  
21 second one of said N call application nodes separate from said

22 first call application node, said first and second subscriber  
23 database server applications thereby forming a subscriber  
24 database load sharing group server application, and

25 wherein said each call processing application sends  
26 a subscriber database service request to said subscriber  
27 database load sharing group server application and said  
28 subscriber database load sharing group server application  
29 selects one of said first and second subscriber database  
30 server applications to perform said requested subscriber  
31 database service request according to a load distribution  
32 algorithm.

1 14. The wireless network as set forth in Claim 13 wherein  
2 said load distribution algorithm distributes new subscriber  
3 database service requests in an alternating manner between said  
4 first and second subscriber database server applications.

1 15. The wireless network as set forth in Claim 13 wherein  
2 said load distribution algorithm distributes new subscriber  
3 database service requests according to a current call process load  
4 of said first subscriber database server application and a current  
5 call process load of said second subscriber database server  
6 application.

1 16. The wireless network as set forth in Claim 15 wherein  
2 said load distribution algorithm distributes said new subscriber  
3 database service requests in order to maintain said current call  
4 process load of said first subscriber database server application  
5 at a level substantially equal to said current call process load of  
6 said second subscriber database server application.



1 17. The wireless network as set forth in Claim 13 wherein  
2 said first subscriber database server application comprises a first  
3 primary-backup group server application, wherein said first  
4 primary-backup group server application comprises a first primary  
5 subscriber database server application executed on said first call  
6 application node and a first backup subscriber database server  
7 application associated with said first primary subscriber database  
8 server application.

1 18. The wireless network as set forth in Claim 17 wherein  
2 state information associated with said first primary subscriber  
3 database server application is mirrored to said first backup  
4 subscriber database server application associated with said first  
5 primary subscriber database server application.

1 19. The wireless network as set forth in Claim 18 wherein  
2 said first backup subscriber database server application resides on  
3 said first call application node.

1 20. The wireless network as set forth in Claim 18 wherein  
2 said first backup subscriber database server application resides on  
3 a call application node separate from said first call application  
4 node.

1           21. The wireless network as set forth in Claim 13 wherein  
2 said second subscriber database server application comprises a  
3 second primary-backup group server application, wherein said second  
4 primary-backup group server application comprises a second primary  
5 subscriber database server application executed on said second call  
6 application node and a second backup subscriber database server  
7 application associated with said second primary subscriber database  
8 server application.

1           22. The wireless network as set forth in Claim 21 wherein  
2 state information associated with said second primary subscriber  
3 database server application is mirrored to said second backup  
4 subscriber database server application associated with said second  
5 primary subscriber database server application.

1           23. The wireless network as set forth in Claim 22 wherein  
2 said second backup subscriber database server application resides  
3 on said second call application node.

1           24. The wireless network as set forth in Claim 23 wherein  
2 said second backup subscriber database server application resides  
3 on a call application node separate from said second call  
4 application node.

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1           25. For use in a wireless network comprising:

2           a plurality of base stations capable of communicating  
3 with a plurality of mobile stations in a coverage area of said  
4 wireless network; and

5           a mobile switching center coupled to said plurality of  
6 said base stations and to a public switched telephone network by a  
7 plurality of trunk lines, wherein said mobile switching center is  
8 capable of handling call connections between calling devices and  
9 called devices on said plurality of trunk lines, and wherein said  
10 mobile switching center is capable of executing call processing  
11 applications, wherein each of said call processing applications is  
12 associated with one of said call connections;

13           a method for providing a subscriber database associated  
14 with said mobile switching center, said method comprising the steps  
15 of:

16           providing N call application nodes within said mobile  
17 switching center, said N call application nodes capable of  
18 executing a plurality of subscriber database server applications;

19           executing a first subscriber database server application on a  
20 first one of said N call application nodes;

21           executing a second subscriber database server application on a  
22 second one of said N call application nodes separate from said

23 first call application node, said first and second subscriber  
24 database server applications thereby forming a subscriber database  
25 load sharing group server application;

26 sending a subscriber database service request from a call  
27 processing application to said subscriber database load sharing  
28 group server application;

29 selecting in said subscriber database load sharing group  
30 server application one of said first and second subscriber database  
31 server applications to perform said requested subscriber database  
32 service request; and

33 performing said requested subscriber database service request  
34 according to a load distribution algorithm.

1 26. The method as set forth in Claim 25 further comprising  
2 the step of:

3 distributing new subscriber database service requests in an  
4 alternating manner between said first and second subscriber  
5 database server applications.

1 27. The method as set forth in Claim 25 further comprising  
2 the step of:  
3 distributing new subscriber database service requests  
4 according to a current call load process of said first subscriber  
5 database server application and a current call load process of said  
6 second subscriber database server application.

1 28. The method as set forth in Claim 27 further comprising  
2 the step of:  
3 distributing new subscriber database service requests in  
4 order to maintain said current call process load of said first  
5 subscriber database server application at a level substantially  
6 equal to said current call process load of said second subscriber  
7 database server application.

1 29. The method as set forth in Claim 25 wherein said first  
2 subscriber database server application comprises a first primary-  
3 backup group server application, wherein said first primary-backup  
4 group server application comprises a first primary subscriber  
5 database server application executed on said first call application  
6 node and a first backup subscriber database server application  
7 associated with said first primary subscriber database server  
8 application.

1        30. The method as set forth in Claim 29 further comprising  
2 the step of:

3        mirroring state information associated with said first primary  
4 subscriber database server application to said first backup  
5 subscriber database server application associated with said first  
6 primary subscriber database server application.

1        31. The method as set forth in Claim 30 wherein said first  
2 backup subscriber database server application resides on said first  
3 call application node.

1        32. The method as set forth in Claim 31 wherein first backup  
2 subscriber database server application resides on a call  
3 application node separate from said first call application node.

1        33. The method as set forth in Claim 25 wherein said second  
2 subscriber database server application comprises a second primary-  
3 backup group server application, wherein said second primary-backup  
4 group server application comprises a second primary subscriber  
5 database server application executed on said second call  
6 application node and a second backup subscriber database server  
7 application associated with said second primary subscriber database  
8 server application.

1           34. The method as set forth in Claim 33 further comprising  
2 the step of:

3           mirroring state information associated with said second  
4 primary subscriber database server application to said second  
5 backup subscriber database server application associated with said  
6 second primary subscriber database server application.

1           35. The method as set forth in Claim 34 wherein said second  
2 backup subscriber database server application resides on said  
3 second call application node.

1           36. The method as set forth in Claim 35 wherein said second  
2 backup subscriber database server application resides on a call  
3 application node separate from said second call application node.

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